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ABSTRACT

Surveys conducted in Minnesota in 1969 and 1970 to obtain public opinion regarding environmental issues are discussed. Several generalizations are made about the state of public opinion about the environmental issue, as follows: (1) The environmental issue has reached public prominence through a sequence from professional and interest-group concern through independent publication and attention in government to mass media coverage and public concern; (2) Public opinion about environmental issues in Minnesota today can generally be described as one of confident concern. There is widespread confidence in the belief that technology itself holds the answers; (3) Opinions regarding environment appear to be rather fixed, at least in communities where specific measures are under debate; (4) On three major environmental issues of 1970--mining in the BWCA, the steel plant, and taconite--opinions on pollution control measures vary sharply according to whether the measure has direct consequences for the community involved; (5) Being more informed about environmental issues does not necessarily mean that a person will be more favorable toward controls; and (6) Environment has the potential for intense conflict within and between communities. Five tables and one figure illustrate survey results. (DB)

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ENVIRONMENT AND PUBLIC OPINION IN MINNESOTA *

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Environmental quality has risen to prominence as a public issue with what seems to be unusual speed. As recently as four or five years ago, opinion pollsters heard almost no mention of it when they asked people about the major issues of the day. Today, it frequently ranks as the second or third most important issue facing the nation, in the minds of survey respondents.

Salience of this issue among Minnesotans and Americans in general has now been documented several times. Gallup and Minnesota polls have both shown that pollution is identified as the top issue by as many as 10 percent, surpassed only by the Vietnam war and youth problems or inflation. In a spring, 1970 University of Minnesota survey in four northeastern Minnesota communities, persons were asked to state the most important of five major issues -- war, inflation, student demonstrations, and civil rights. Given this choice, 22 percent chose environment as most important and only 8 percent thought it to be the least important of these five issues.

Development of a public issue

The environmental issue itself is not particularly new, as veteran conservationists tell us repeatedly. What is new is the fact of sudden and widespread public recognition of environmental quality as an issue. It reflects a social movement which has followed a rather familiar historical pattern. Nevertheless, public opinion about this issue has some characteristics which, while not unique, set it apart from certain other current issues. With governments and public agencies now faced with a multitude of community,

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regional and state-wide environmental decisions, the structure of opinion about this issue seems important to understand and keep in mind.

Twenty years ago, concern about the environment was largely confined to a relatively small circle of interest groups and professional organizations devoted to conserving or preserving certain natural resources. The soil conservation movement of the 1930's had not captured general public attention in a major way, however significant it may have been in rural areas. In the early 1960's, it may fairly be said that the pesticide controversy was a forerunner of the environmental issue. A principal factor here was the book Silent Spring, by Rachel Carson, followed by a variety of books by other biologists, ecologists and similar professionals. Later in the decade, environmental questions captured the concern of a growing number of legislators, congressmen, and public officials. Environmental study centers were formed. This governmental activity was accompanied by rapidly increasing mass media attention and subsequent public definition of environment as an issue.

This historical pattern--from relatively isolated interest groups and professional circles through book publication and governmental attention to mass media coverage and public concern--appears in many issues. It can be seen in the civil rights, labor, and recent consumer protection movements, for example.

Specific features of the environmental issue

Environmental quality, as a matter of public concern, has some special features. Not only do preservation and pollution engage basic human values, but they also reflect ideals which have been taught directly, specifically, and energetically in American schools in recent years. Probably no other public opinion issue, war and sex education included, has received more persistent and unqualified attention from elementary and secondary teachers. Environment became a noncontroversial message to the young. Who can oppose Smokey-the-Bear exhortations to beautify and protect the countryside? Environmental quality has become a modern "motherhood" issue to the extent that, in comparison with family life education, it is a far safer issue for teachers to handle. At least, it has been so far.

Environmental quality has strong appeal for both conservative and liberal political viewpoints. While the conservation and preservation movements trace back to Theadore Roosevelt and were later supported

by, and to some extent identified with, New Deal politics, much of the philosophy behind conservation movements assumes a need to protect or preserve some aspect of the status quo. The familiar appeal to "preserve the balance of nature" is a philosophically conservative statement, however liberal it may be, in the political sense. It is an irony of political labels that "conservation" and "conservatism" have not necessarily been identified with the same political parties. Recent polls suggest that more persons expect the Democratic than Republican party to advocate environmental improvement in the 1970 election campaigns. There is ample evidence, though, that politicians in both parties are competing for honors as guardians of the environment.

Consensus vs. conflict

Another characteristic of the environmental issue is its apparent consensus quality. Environment being something that no public spokesman is likely to oppose, it has reached public prominence in an atmosphere of general agreement about the importance of the issue. Such initial consensus is not characteristic of all issues. The labor union movement produced sharp divisions as soon as it became widely recognized. So did the Vietnam war and the Civil Rights movement. Environment may have been especially appealing precisely because it held out the promise of a unifying theme in a time of intense, emotional divisions over many of the other major issues.

What may be overlooked today is that issues with apparent appeal for the majority initially, as environment possesses today, may contain the seeds for later conflicts and cleavages. The general need for improvement in education was widely accepted after World War II and by the 1950s had attained the status of a general social value. School Boards in rapidly growing communities frequently had no difficulty during pre-Korean War days in getting bond issues passed by wide margins. Later, specific proposals for further school growth and innovation ran into stronger resistance. Opinions frequently split sharply, in the late 1950s and early '60s, over such programs as mathematics training, extra-curricular activities and family life education.

If environmental concern follows the pattern of other public issues, then, we might well prepare for the possibility that the current, and apparent, consensus about the importance of the issue may give way to some social conflicts of a type which have not been widely experienced in the past.

Ideology, socioeconomic status, and self-interest

The environmental movement, like any other social movement, has a set of ideologies that prescribe a certain rationale and certain goals. There are different ideologies articulated by different spokesmen, but they are alike in several basic ways: they relate a problem situation to basic human values in everyday understandable terms. Slogans abound, culprits are identified, and the need for vast reform is repeated incessantly. Specific proposals for action have poured forth.

Militants in the movement are probably in for a disappointment if they interpret public concern over environment as meaning the public has accepted environmentalist ideology and all it implies. While ideology is a standard ingredient in most social movements, American public opinion has rarely been characterized by widespread acceptance of any particular ideology. It has been argued frequently that public acceptance of such social innovations as social security, medicare, public aid to education and tax reform stems more from self-interest than from political or social ideology. Frequently, political and social attitudes are related more to a person's socioeconomic status and his own definition of his self interest than to his particular ideology.

As a result, the consequences of social change are frequently accepted more rapidly and advocated more persistently by Americans who are higher on the socioeconomic status scale. Some of the sharpest differences of opinion appear between the social classes, and where such wide differences occur the issue is almost certainly a controversial one.

Some idea of how social class differences are reflected in opinions about various public issues can be gained from table 1. Each opinion item there is from a statewide sample of the same size and type. Opinions about the space program, drug laws, and the surtax bring out much greater differences between adults at the extreme ends of the educational spectrum, compared with belief that something should be done about pollution.

Believing that "something should be done", of course, is quite different from specifying <u>what</u> should be done. We would expect social class differences in opinions to become much sharper as specific proposals are brought forth. For example, the two bottom items in table 1 show that agreement with the population control idea varies more across educational levels than does mere recognition of the problem.

Confident concern

The notion that environmental awareness has produced a readiness to act swiftly and sharply can be sharply questioned in the light of survey data such as those in table 2. The CBS news poll, based upon a national sample, shows a majority willing to identify with conservation rather than "progress", with the latter defined as giving industrial and employment growth priority over environmental concerns. However, less than a third in the same poll approved the idea of eliminating tax deductions as a population control measure.

Similarly, a 1969 University of Minnesota survey of adults in a 50-mile-long area from Osseo to St. Cloud, along the Minnesota river, showed two-thirds believing DDT to constitute a danger as a pollutant. But when it came to banning this insecticide, people had some second thoughts. As one rural resident put it, "You have to have something to kill the mosquitoes." A farm operator illustrated the difference between basic values and self-interest motives:

> "DDT? I'm against it and all other pesticides. We'd all be better off without putting any chemicals in the soil. Of course, though, we use lots of chemicals on this farm, DDT too. You can't stay in business farming without it."

Perhaps an even sharper illustration of the difference between concern and reaction to specific drastic alternatives appears in the findings from a spring, 1970, survey in four northeastern Minnesota communities. Nearly three-fourths agreed that pollution presents us with hard choices. Yet hardly more than one in ten accepted rationing electricity as a course of action and less than a fourth agreed with the idea of rationing automobiles. The overriding belief that an easier way can be found out of the environmental crisis appears on another item in the same survey: 83 percent agreed that "Technology got us into the environmental crisis, and technology will get us out." These people are concerned, but it can be described as a confident concern. Their belief that technology and science hold the answer to a major problem reflects very well what has been called the "technologic ethic" in American society.

This is not to say that people won't accept some changes; nearly nine-tenths of the Twin City adult population appear willing to revert to the returnable beverage bottle system which, presumably, adds some modest inconvenience to everyday life. There is a

question, of course, whether the no deposit-no return container was ever as much of a convenience factor for consumers as for beverage producers and retailers. At any rate, adjusting to reusable containers is a far cry from giving up an automobile, a child, or even an easy, effective way to kill insects.

Not only do the survey studies provide a picture of confident concern, but they also suggest that attitudes on environmental issues may already be quite fixed and impevious to all but the most powerful persuasive influences. One indicator of concern with an issue is the extent to which people talk about it with friends, other family members, and people at work. Studies of persuasion frequently indicate that influence from other individual persons is one of the most powerful sources of opinion change at work in society--much more powerful, in many cases, than mass media influence. Respondents in the spring, 1970, University of Minnesota survey study in northeastern Minnesota were asked if they had discussed one or more of three environmental issues--the Boundary Waters Canoe Area, the Duluth Steel Plant, and the Silver Bay taconite plant. Nearly three-fifths of all persons interviewed (58.9%) recalled talking to someone about at least one of these three issues. Such discussions were most commonly reported as having involved other family members or friends and, less frequently, others at work. The most commonly discussed issue was the taconite plant, reported by 37.6%, with the BWCA issue discussed by 24.2% and the steel plant issue by 21.5%.

These discussions were apparently rather heated at times. Nearly a fourth (24.6%) said they had tried to convince someone else to accept a different point of view on one or more issues, and 20.1% reported attempts to persuade them. However, people in this survey do not appear very susceptible to change. Only 7.9% claimed they convinced others to change their minds, and a mere four persons, under 1%, admitted having their own minds changed after talking about one or more of the three environmental issues.

Environmental concern and community interest

A general implication from these studies is that attitudes about specific environmental control measures are at least in part governed by the way persons relate those measures to their own self-interest. Since many of the specific controversies about environmental management have their greatest impact on individual communities, we might reasonably expect people in affected communities to view these measures in quite different ways, compared with outsiders.

The two University of Minnesota surveys mentioned earlier illustrate how community reactions can vary on issues that have immediate implications for specific localities. Findings from the 1969 survey in the Osseo-St. Cloud area indicate a majority favoring operation of the nuclear generating plant there which, at the time of the study, was involved in a major public dispute over whether its operation would contaminate the Mississippi river with radioactive waste. One respondent living within 10 miles of the plant was representative of many who dissociated themselves from the issue, saying, "Radioactivity is largely a Minneapolis issue, downstream." In that study, respondents appeared more concerned about the DDT issue than about the nuclear power plant which was located nearby and had received much publicity.

The 1970 survey in northeastern Minnesota made possible an examination of opinions about three issues in four communities where proposed measures have specific kinds of impact. The communities studied were, Grand Rapids in north central Minnesota, Duluth and Silver Bay on Lake Superior and Ely in the boundary waters area. In Duluth, the principal issue was whether a steel plant employing 2,500 persons could meet state air pollution standards without discontinuing operation. In Silver Bay, the issue concerned a taconite processing plant that provides more than half of the jobs in a community of under 4,000 population, and whether taconite tailings which the plant discharges into Lake Superior have harmful effects. The issue in Ely centered around the question of mining in the nearby BWCA. Each issue had received statewide publicity and raised a potential conflict between environmental control and employment. Grand Rapids was studied for comparison purposes, where the issues presumably would have general relevance, but no immediate local impact.

Judging from figures in table 3, each of the issues appears to be of concern to a majority of persons interviewed in each of the three communities. Grand Rapids respondents tend to express more concern on each issue, compared with persons in the other three communities. Concern about the BWCA issue seems lowest in Duluth, where there is greater reluctance among respondents to express any opinion whatsoever on environmental issues. These variations in concern, with the exception of Grand Rapids, are not particularly large, and the important point is that in each case a majority either agrees that the issue is a matter for concern or disagreesthat the pollution issue has received more publicity than it's worth.

The differences from one community to another are much more dramatic when respondents are asked about specific courses of action. A battery of four opinion questions was asked about each of the three major issues, and the findings in table 4 are illustrative. The BWCA issue has the immediate significance for employment and business in Ely. That community stands apart sharply from the rest, with more than four-fifths (42%) agreeing with the idea of drilling for minerals there in the interest of employment and the economy. In this case, Duluth respondents were <u>least</u> likely to endorse the idea of mining in the BWCA.

Community differences are less marked on the steel plant issue although, as expected, Duluth respondents are generally negative to the idea of measures that might lead to unemployment. The sharp contrast is between Grand Rapids, where nearly two-thirds agree with this item on air pollution control, and the other three communities, where slightly more than a third agree.

The sharpest difference of all is on the taconite issue. At one extreme only 12 percent of the Grand Rapids respondents disagree with the idea of preventing discharge of tailings into Lake Superior. By comparision, exactly three-fourths of those in Silver Bay, where the taconite plant is located, disagree. Duluth respondents, with 22% disagreeing with prevention, are near the restrictive end of the continuum, and Ely respondents are roughly half way between the extremes.

Silver Bay respondents seem to identify with the environmental problems of Duluth more than Duluthians identify with problems in Silver Bay. Persons in the two communities responded in quite similar ways on the steel plant issue, but the Duluth respondents were not particularly sympathetic with the Silver Bay point of view on taconite tailings. This pattern seems to reflect the fact that Silver Bay depends upon the iron industry entirely, to the extent that its citizens view the steel plant issue at Duluth as equivalent to the taconite controversy. In the larger, heterogenous community of Duluth, however, citizens may not regard the taconite plant as necessarily vital to the welfare of Duluth.

Questions about a fourth issue, modification of boat motors to reduce water pollution, were included on the assumption that this is a relatively minor issue that would be of more or less equal concern in the four communities studied. However, even here there are community differences. Respondents in Ely, where questions

about motors in the canoe country represents a long-standing legal controversy, were the most reluctant to agree that boat owners should be forced to make motor modifications.

Not only do opinions vary by community, but in extreme cases community self-interest can be a stronger determinant of opinions than socioeconomic status. The relationships between education and opinions in figure 1 indicate that in spite of a general tendency for more highly educated persons to support restrictive anti-pollution measures, that difference is not always as important as where a person lives. College-educated persons in Duluth, Ely, and Silver Bay are more reluctant to support restrictive measures at the Duluth steel plant than are the least educated in Grand Rapids. On the taconite issue, opposition to restrictions varies only negligibly with the person's level of education. In the case of the BWCA issue, both community and educational status of the respondent are related to opinions.

Community self interest and social conflict

The relationship between community self-interest and human opinion is, of course, rather familiar. What is striking about the northeastern Minnesota study is the sheer magnitude of community differences that can occur in a situation where a whole community literally depends upon a single industry, as is the case of Silver Bay. Also, self-interest seems to be issue-specific. In only one case (Silver Bay attitudes about the steel plant) do opinions in an outside community equal those of the one where the proposed measure has been defined as having massive local implications.

Attitudes and information

It is not unusual to find that as persons become more informed about a new public proposal they become more skeptical about it. In the northeastern Minnesota study, Silver Bay respondents were most highly informed about the very issue on which they most opposed restrictive measures--the taconite issue. Similarly, the Ely respondents had highest knowledge of the BWCA issue and were most opposed to preventing mining there. (table 5) On the steel plant issue, level of knowledge was almost identical in Silver Bay and Duluth, further supporting the conclusion above that Silver Bay respondents identify with the environmental problem which that issue poses.

Total knowledge, added across all three issues, is clearly higher in the three communities (Ely, Silver Bay and Duluth) where one

of these issues is immediately relevant and lowest in the fourth community (Grand Rapids) where these issues are more remote. Yet, it is Grand Rapids where there is highest support for restrictive measures. One might conjecture that a study of opinion about an issue of more immediate local importance to Grand Rapids, such as paper production, might well show high local knowledge of that issue and greater reluctance to endorse restrictive environmental protection measures.

Implications for opinion in the future

If the pattern reflected in this study is representative, there is a considerable likelihood that general public support for environmental measures may fall off as people (a) learn more about the specific nature of the issues involved and (b) interpret the proposals for restriction as possibly harmful to local community interest. It is possible, given the current state of general opinion, that regulations could be enforced in many individual communities over the objections of local citizens, on the basis of general opinion in the rest of the state or region. There is a question, however, whether such general support can be maintained after a greater number of communities have experienced such regulation, particularly if enforcement is defined locally as detrimental for employment and the community's future.

If widespread support for environmental control measures is to be maintained, it appears that a great deal of informational and persuasive effort on the part of community, regional and state leaders is necessary. The choices which people perceive today may not be realistic. The overwhelming confidence in the ability of technological measures to solve pollution problems may in fact be a barrier to appreciation of the real consequences of environmental control. Given the historical American experience with technology, it is extemely questionable whether any measures taken to reduce pollutants of one kind or another will, in fact, maintain the status quo. There is little doubt that restoring Lake Erie to an earlier state would have far-reaching consequences for change in communities that line its shores.

Community development has been a major concern in rural Minnesota for the past decade and there is ample reason to expect environmental measures to have pronounced consequences for the type of development that occurs. Measures that seem beneficial for a region or nation as a whole may not seem helpful at all to citizens of the very community where these measures are applied. There have been many attempts to persuade citizens

that pollution control should work to the economic betterment of everyone. But the generalization that "pollution control is good business" may not be true in many individual cases, and citizens of affected communities may be among the first to reject it. It would seem more realistic, frequently, to argue for environmental controls on other than economic grounds, recognizing openly that enforcement may produce drastic changes in social structure.

There is good reason to suspect that the consensus quality of opinion about the environment may dissipate, if not disappear, as we witness more enforcement of measures that strike at basic values and beliefs about self-interest. Environment has the potential for intense conflict within communities and between communities. Such conflict could well turn more explosive than many disputes associated with community development in recent years.

We are quite familiar with disagreements over location of new industries, governmental and educational centers, highways, and other forms of positive aid. The environmental issue, on the other hand, presents many cases where proposed measures have a negative quality. Instead of "which community gets what," the question often seems to be "which community gets enforcement?" Judging from past experience, resistance to restrictive measures may produce much more volatile and divisive conflict than competition for new facilities and programs. Resistance to school consolidation in the Midwest and school integration in the South are examples. Enforcement issues of this type are usually accompanied by an undercurrent of concern about both the short-run and the long-run future of the community.

Public support or rejection of environmental control measures over a period of years is likely to depend upon far more than economic self-interest, however, important that factor has appeared in the Minnesota surveys. From past experience, it seems that public support for such measures is more likely when people define enforcement as consistent with not only (a) their own basic values but also with (b) their evaluation of the legitimacy and fairness of the enforcement and (c) the relationship which they see between regulations and the community's future. Sometimes the second two factors outweigh the first. Although the ultimate fate of school integration is not yet clear, there are numerous American communities where adamant resistance of the past, based on traditional

values held by whites, is now giving way to acceptance of integration based on other values concerning acceptance of established authority and a belief that accomodating integration will benefit the community as a whole.

Summary

Based upon the opinion data from national, state, and University of Minnesota studies discussed in this report, several generalizations about the state of public opinion about the environmental issue can be made.

1. The environmental issue has reached public prominence through a familiar historical sequence, from professional and interest group concern through independent publication and attention in government to mass media coverage and public concern. Unlike many issues, environment initially appeared to be a consensus issue in spite of the fact that much of the ideology in the movement specifies courses of action that have potential for intense conflict.

2. Public opinion about environmental issues in Minnesota today can generally be described as one of confident concern. The issue is frequently ranked as one of the most important ones facing the nation. At the same time, there is general reluctance to accept the appropriateness of severe restrictions on current technology. Instead, there is a widespread confidence in the belief that technology itself holds the answers, reflecting traditional acceptance of the "technologic ethic."

3. While environment has become a popular topic for everyday discussion, opinions appear to be rather fixed, at least in communities where specific measures are under debate.

4. On three major environmental issues of 1970--mining in the BWCA, the steel plant, and taconite--opinions on pollution control measures vary sharply according to whether the measure has direct consequences for the community involved. While environmental quality has been defined generally as having major long-run consequences, the short-run aspects seem to take precedence for people residing in communities where specific measures are proposed. In extreme cases, such as the taconite issue, community self-interest seems to be a stronger determinant of opinion than socio-economic status, which is ordinarily related to views on social issues.

5. Being more informed about environmental issues does not necessarily mean that a person will be more favorable toward enforcement of controls; in this study, the most highly informed persons were frequently most opposed to restrictions.

6. The environmental issue differs from some others in that measures being proposed have a negative quality, the restriction or regulation of some current activity. It appears that the confidence in technological measures may be a barrier to appreciation of the consequences of pollution control. It may be more realistic for public leaders to recognize that enforcement itself may produce drastic changes in social structure. As things stand today, environment has the potential for intense conflict within communities and between communities. Such conflict could well become more explosive than many disputes of the past.

Table 1

Opinion differences between grade school and college-educated adults onvvarious issues in Minnesota.*

Date	Issue and Question	Per-centage spread	Grade school		College
8/24/69	Agree that "It is important for the U.S. to push on in space, exploring Mars and other planets."	45 pts	24%	vs.	69%
3/16/70	Agree that "The law should treat marijuana differently from other drugs."	39 pts	8%	vs.	47%
9/18/69	Approve of continuing surtax.	34 pts	23%	vs.	57%
6/1/69	Favor admitting Communist China to the United Nations.	25 pts	23%	vs.	48%
4/26/70	Agree that "The race issue should be played down for a time because there is too much noise and hysteria on the subject right now."	25 pts	76%	vs.	51%
7/6/69	Agree that "If the world is to be preserved for future generations to enjoy, population growth must be limited."	25 pts	49%	vs.	74%
3/12/70	Agree that "Life as we know it today will in serious trouble if nothing is done about pollution."	18 pts	77%	vs.	95%

* Data Source: Minnesota Poll, all items based on state-wide samples of about 600 persons.

Table 2

General environmental concern vs. attitudes toward specific environmental quality control measures.

	Percent
CBS News Poll, April, 1970	
Percent saying they are on the side of "conservation" rather than "progress."	56 %
Percent believing income tax deductions should be eliminated as a way of discouraging population growth.	29 %
University of Minnesota Survey, Osseo-St. Cloud, 1969	
Percent believing DDT pollutes soil or water.	69 %
Percent believing DDT should be banned.	39 %
University of Minnesota Survey, Northern Minnesota, 1970	
Percent agreeing, "The environmental pollution crisis presents us with some of the hardest choices we have ever had to make."	73 %
Percent agreeing that:	
"Rationing electrical power is almost a must if you are going to eliminate pollution."	12 %
"To really control air pollution would require something drastic, like rationing automobiles."	22 %
Twin Cities Metro-Poll, 1970	
Percent agreeing, "Pollution is having a harmful effect on the way you live."	56 %
Percent willing "To pay a little extra at the time of purchase and then return bottles and cans for deposit so they could be reused."	88 %

Table 3

Concern about pollution issues in four Northeastern Minnesota communities, April-May, 1970.

		Grand Rapids (N:119)	Duluth (N:124)	Silver Bay (N:98)	Ely (N:109)
Boundary Waters Canoe Area					
"Regardless of its direct effect on me, I feel very concerned about whether mining is allowed in the canoe country."	Agree	72 %	57 %	63 %	70 %
	Disagree	21	22	29	21
	Other, DK	7	21	8	9
	TOTAL	100 %	100 %	100 %	100 %
Steel and Taconite					
"Regardless of its direct effect on me, I feel very concerned about whether strict pollution standards are enforced at the steel and taconite plants."	Agree	82 %	64 %	67 %	66 %
	Disagree	8	15	25	26
	Other, DK	10	21	8	8
	TOTAL	100 %	100 %	100 %	100 %
Pollution in general					
"The whole pollution issue has received far more publicity than it's worth."	Agree	21 %	22 %	37 %	26 %
	Disagree	75	65	62	66
	Other, DK	4	13	1	8
	TOTAL	100 %	100 %	100 %	100 %

Table 4

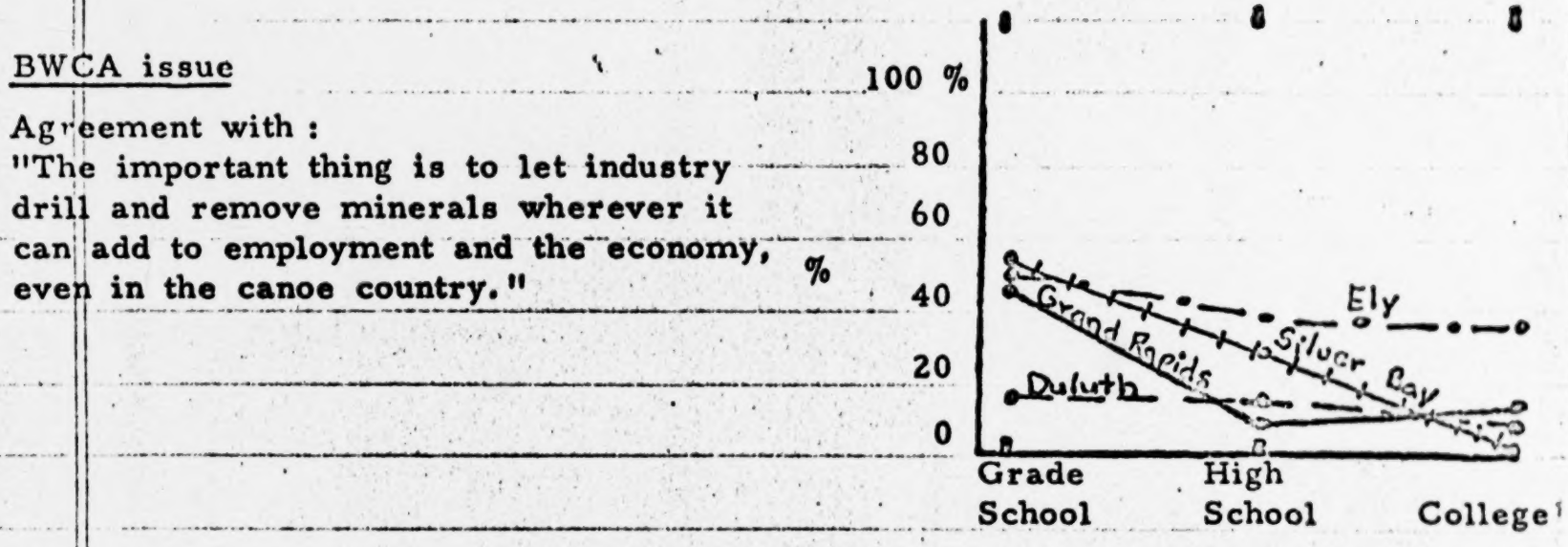
Opinions on pollution issues in four northern Minnesota communities, April-May, 1970.

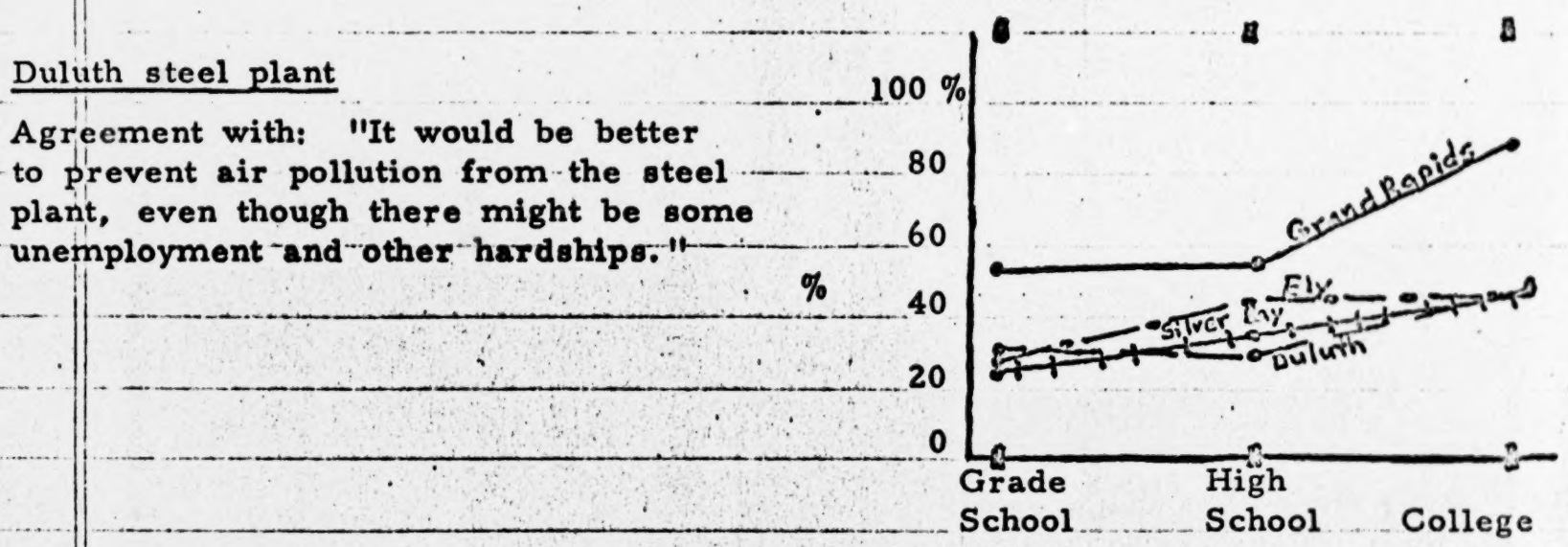
	Grand Rapids	Duluth	Silver Bay	Ely
Mining in BWCA				
Agree that "the important thing is to let industry drill and remove minerals wherever it can add to employment and the economy, even in the canoe country."	24 %	13 %	29 %	[42 %]*
Duluth Steel Plant				
Agree that "it would be better to prevent air pollution from the steel plant, even though there might be some unemployment and other hardships."	64 %	[35 %]	34 %	38 %
Taconite plant, Silver Bay				
Disagree that "some economic hardship may result, but it is better to prevent the taconite plant from discharging tailings into Lake Superior."	12 %	22 %	[75 %]	44 %
Pollution from Boat Motors				
Agree that "all boat owners should be forced to modify their motors to reduce lake pollution."	66 %	67 %	55 %	40 %

* Percentages in [ ] refer to communities in which the issue is presumed to be especially significant locally.

Figure 1

Opinions on environmental issues in four northeastern Minnesota communities, according to level of education.





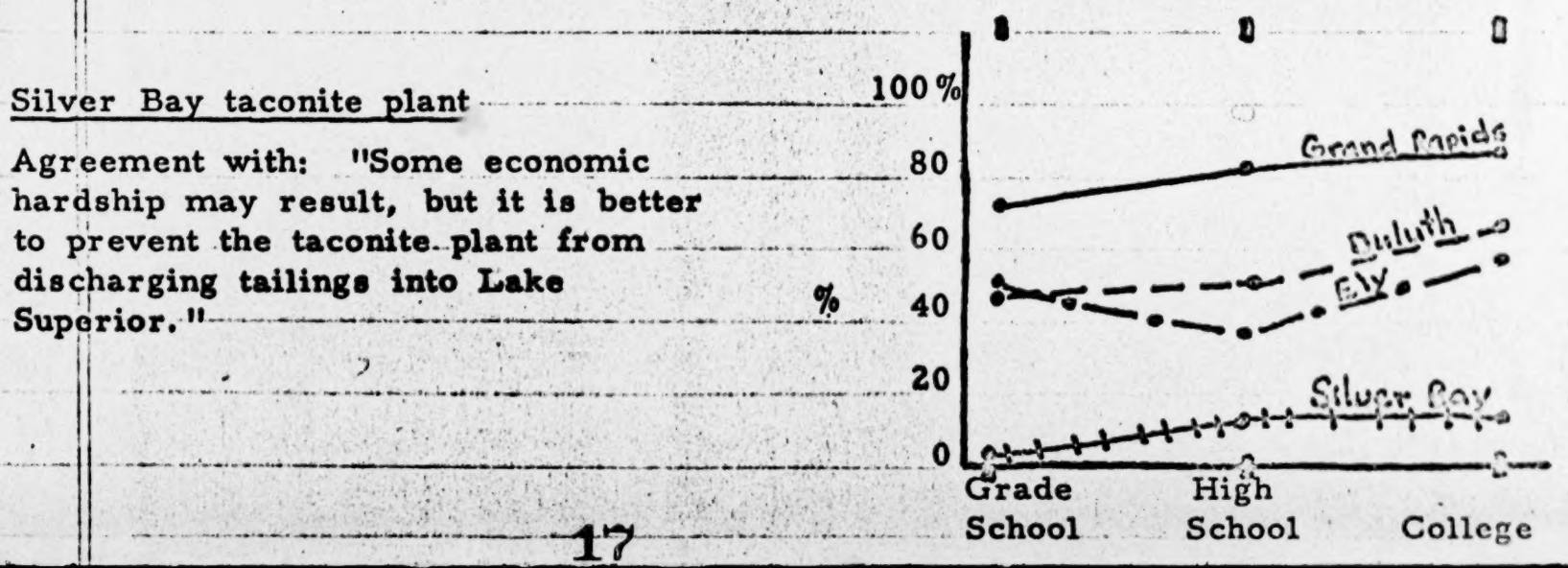


Table 5

Knowledge of environmental issues according to community.

Perdent who . . .	Grand Rapids	Duluth	Silver Bay	Ely
Have "high" knowledge of BWCA issue.*	19.3 %	17.6 %	14.3 %	38.6 %
Have "high" knowledge of steel plant issue.	26.0 %	48.0 %	51.1 %	40.4 %
Have "high" knowledge of taconite issue.	10.9 %	19.2 %	53.0 %	42.2 %
Have 4 or more items of accurate knowledge about all three issues combined.	21.7 %	49.2 %	56.2 %	50.4 %

* "High" knowledge means being able to recall two or more facts, accurately, about the issue.

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